

In claim 46, line 1, change "45" to -- 57 --.

Cancel claims 28, 30, 44 and 45.

Amend claim 37 to read as follows:

16 37. (Twice amended) An apparatus, useful with a system including a digital database that stores sequentially adjacent image data files containing digitized image data corresponding to input images, for controlling the manner in which the digitized image data is accessed from the image data files in the digital database and provided to an output of the apparatus for display on an image display device, said apparatus comprising:

a plurality of image memories for storing digitized image data read from the database;

D' user command means for registering user commands, including a particular read command to read and display a selected image data file from the database and a subsequent user command to read and to display a sequentially adjacent image data file; and

control means responsive to the particular read command for reading the selected image data file and storing the corresponding image data in one of the image memories for subsequent display on the display device, wherein said control means is further responsive to said particular read command for reading one or more image data files sequentially adjacent to the selected image data file and storing the corresponding one or more sequentially adjacent digitized image data in one or more of the remaining image memories without displaying said sequentially adjacent data files until said subsequent user command is registered, whereby access time to display the sequentially adjacent image file pursuant to said subsequent user command is shortened because the sequentially adjacent image file has already been read from the database into one of said image memories.

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L Add the following new claims:

<sup>15</sup>  
\* 54. A method, for use with a digital image processing system including a digital database having a plurality of images digitized as image data and stored in respective image data files therein, said image data including a plurality of image data pixels, each image data pixel having a row and column associated therewith, a plurality of image memories, and an output for coupling thereto an image display device having a screen for display of images, such display including a two-dimensional array of screen pixels arranged in rows and columns, the method comprising the steps of:

defining the screen to contain a plurality of sections, each section including a plurality of subsets comprising rows and columns of screen pixels;

selecting a plurality of image data files;

reading image data from the selected plurality of image data files and loading the image data into respective image memories;

allocating at least two image memories containing image data to at least two sections of the screen, respectively;

displaying the image data from the at least two image memories on the respective screen sections by mapping the image data pixels onto the screen pixels of the respective screen section, by row and column;

selecting a plurality of the images displayed on the screen for manipulation; and

manipulating each of the selected images in response to a single user command so that all of the selected images are manipulated in the same way at the same time, said manipulating step comprising the step of zooming the image by defining, by minimum and maximum row and minimum and maximum column, a subset of the image data, redefining the subset by one of (a) increasing the minima and decreasing the maxima, and (b) decreasing the minima and increasing the maxima, incrementally over a period of time responsive to a user command, and displaying the subset, in accordance with the changing definition of the minima and maxima of the subset,

concurrently with the time period over which the minima and maxima are redefined.

<sup>64</sup>  
58. A method, for use with a digital image processing system including a digital database having a plurality of images digitized as image data and stored in respective image data files therein, said image data including a plurality of image data pixels, each image data pixel having a row and column associated therewith, a plurality of image memories, and an output for coupling thereto an image display device having a screen for display of images, such display including a two-dimensional array of screen pixels arranged in rows and columns, the method comprising the steps of:

defining the screen to contain a plurality of sections, each section including a plurality of subsets comprising rows and columns of screen pixels;

selecting a plurality of image data files;

reading image data from the selected plurality of image data files and loading the image data into respective image memories;

allocating at least two image memories containing image data to at least two sections of the screen, respectively;

displaying the image data from the at least two image memories on the respective screen sections by mapping the image data pixels onto the screen pixels of the respective screen section, by row and column;

selecting a plurality of the images displayed on the screen for manipulation; and

manipulating each of the selected images in response to a single user command so that all of the selected images are manipulated in the same way at the same time, said manipulating step comprising the step of panning the image by defining, by minimum and maximum row and minimum and maximum column, a subset of the image data, redefining the subset by one of (a) increasing the row minimum and maximum, (b) decreasing the row minimum and maximum, (c) increasing the column minimum and maximum, and (d) decreasing the column minimum and maximum,

incrementally over a period of time responsive to a user command, and displaying the subset, in accordance with the changing definition of the minima and maxima of the subset, concurrently with the time period over which the minima and maxima are redefined.

<sup>17</sup>  
~~56~~. An apparatus, useful with a system including a digital database that stores sequentially adjacent image data files containing digitized image data corresponding to input images, for controlling the manner in which the digitized image data is accessed from the image data files in the digital database and provided to an output of the apparatus for display on an image display device, said apparatus comprising:

a plurality of image memories for storing digitized image data read from the database;

user command means for registering user commands, including a particular read command to read and display a selected image data file from the database and a subsequent user command to read and to display a sequentially adjacent image data file;

control means responsive to the particular read command for reading the selected image data file and storing the corresponding image data in one of the image memories for subsequent display on the display device, wherein said control means is further responsive to said particular read command for reading one or more image data files sequentially adjacent to the selected image data file and storing the corresponding one or more sequentially adjacent digitized image data in one or more of the remaining image memories, whereby access time to display the sequentially adjacent image file pursuant to said subsequent user command is shortened because the sequentially adjacent image file has already been read from the database into one of said image memories; and

means for controllably generating border image signals representative of image

characteristics of at least one border region to be combined with the image data, and for coupling the border image signals to the image display device so that the image reproduced thereby is bound by the at least one border region.

<sup>18</sup>  
~~57~~ An apparatus, useful with a system including a digital database that stores sequentially adjacent image data files containing digitized image data corresponding to input images, for controlling the manner in which the digitized image data is accessed from the image data files in the digital database and provided to an output of the apparatus for display on an image display device, said apparatus comprising:

a plurality of image memories for storing digitized image data read from the database;

user command means for registering user commands, including a particular read command to read and display a selected image data file from the database and a subsequent user command to read and to display a sequentially adjacent image data file; and

control means responsive to the particular read command for reading the selected image data file and storing the corresponding image data in one of the image memories for subsequent display on the display device, wherein said control means is further responsive to said particular read command for reading one or more image data files sequentially adjacent to the selected image data file and storing the corresponding one or more sequentially adjacent digitized image data in one or more of the remaining image memories, whereby access time to display the sequentially adjacent image file pursuant to said subsequent user command is shortened because the sequentially adjacent image file has already been read from the database into one of said image memories, and wherein said control means comprises means for controllably reading image data files from the database in a first selected order; and means for loading image data from the thus read image data files into respective ones of the plurality of

image memories in a second selected order.

20

~~58~~. A method for controlling the manner in which digitized image data is accessed from a plurality of image data files in a digital database in order to display such digitized image data on an image display device, said database containing image data files representing a plurality of sequentially adjacent input images, said method comprising the steps of:

providing a plurality of image memories for storing digitized image data read from the database;

in response to a read command signaling a desire to display a selected input image on the display device, reading a selected image data file representing such input image from the digital data base, storing the corresponding digitized image data in one of the image memories, and displaying the input image represented by the so stored digitized image data on the display device; and

in response to the same read command, reading one or more additional image files representing input images that are sequentially adjacent to the input image represented by the selected image data file and storing the corresponding digitized image data in one or more of the remaining image memories without displaying the sequentially adjacent input images until a subsequent user command is registered, whereby access time to display a sequentially adjacent input image pursuant to a subsequent user command is shortened because the corresponding sequentially adjacent image file has already been read from the database and stored in one of the additional image memories.

D<sup>2</sup>  
End

41